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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BOMAR, THOMAS S

ART UNIT

PAPER NUMBER

3672

DATE MAILED: 12/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/878,465

Applicant(s)

HULT, VERN A.

Examiner

Shane Bomar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) 46-65 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 20, 27-32 and 34-45 is/are rejected.
- 7) ☒ Claim(s) 8-19, 21-26 and 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I drawn to claims 1-45 in Paper No. 4 is acknowledged.
2. Claims 46-65 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in Paper No. 4.

Specification

3. The abstract of the disclosure is objected to because of the recitation of the legal term "said" in line 4. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 171. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claim 29 is objected to because of the following informalities: The recitation of "of any" is unnecessary since the claim is referring to only one parent claim. Appropriate correction is required.

6. Claim 42 is objected to because of the following informalities: This claim begins with the recitation of "A". However, since this is a dependent claim, the proper beginning would be -The--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 20, 27, 28, 31, 36-40, and 43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 recites the limitation "said resilient member". There is insufficient antecedent basis for this limitation in the claim. This claim is also objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Through the recitation of "a spring", the claim includes every limitation of the parent claim.

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Claim 27 recites the phrase "The bearing head assembly" in the preamble. However, the preamble of the claim it depends from is recited as "The drive head assembly". The addition of "bearing" to this claim is an indirect limitation and renders the claim indefinite.

Claim 28 recites the limitation "said driven gear" in the second line. There is insufficient antecedent basis for this limitation in the claim. It is noted that "a driven gear" is first recited in claim 30.

Claim 31 recites the limitation "said first and second bearing hubs" in the second line. There is insufficient antecedent basis for this limitation in the claim. It is noted that "first and second bearing hubs" are first recited in claim 21.

Claims 36-40 recite the limitation "The stuffing box" in the beginning of each claim. There is insufficient antecedent basis for these preambles in the claims. There are several other instances where antecedent basis is lacking throughout these claims (i.e., "said seal means" recited in claim 36). It is noted that depending these claims (possibly claim 35, also) from claim 34 would alleviate the rejections; therefore the claims have been examined in that manner.

Claim 43 fails to particularly point out and distinctly claim the subject matter because one of ordinary skill in the art would not be able to determine how the stuffing box could be serviced without removing the drive head based on the recited limitations. As the claim stands, one of ordinary skill in the art would infer that the stuffing box need only be integrated into the upper end of the drive head to be serviceable without removal.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

10. Claims 1-6, 34-36, and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 5,823,541 to Dietle et al.

Regarding claim 1, Dietle et al disclose in Fig. 2 a drive head assembly 103 for use to fluid sealingly rotate a rod 107 extending down a well that comprises a rotatable sleeve 119 adapted to concentrically receive a portion of the rod 107, a means 139 for drivingly connecting the sleeve 119 to the rod 107, and a prime mover drivingly connected to the sleeve 119 for rotation thereof (see column 11, lines 47-50).

Regarding claim 2, Dietle et al's drive head assembly further comprises a tubular standpipe 119 concentrically mounted within the sleeve in annular spaced relation defining a first

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annular fluid passageway 125 between the standpipe and the sleeve, and a second annular fluid passageway (as at 47 in Fig. 1) between the standpipe 119 and the rod 107. The second passageway being in fluid communication with wellhead pressure in the well during normal operation since it is open to cavity 114 (see column 11, line 39).

Regarding claim 3, the drive head assembly 103 further comprises seal means 127 between the first and second passageways permitting the maintenance of a fluid pressure differential (see column 12, lines 14-21 and column 6, lines 11-16).

Regarding claim 4, the drive head assembly 103 includes means 135 for maintaining the fluid pressure in the first passageway in excess of wellhead pressure in the second passageway.

Regarding claim 5, the seal means 127 are disposed in the first passageway 125 (see Fig. 2).

Regarding claim 6, the seal means 127 are compressively loaded in the passageway for advanced sealing (see column 2, lines 49-52).

Regarding claim 34, Dietle et al disclose in Fig. 2 a stuffing box (seen as the lower hatched portion of yoke 101) for sealing the end of a rotatable rod 107 extending from a wellbore. The stuffing box comprises a first fluid passageway 125 disposed concentrically around at least a portion of the rod 107 passing through the stuffing box. A second fluid passageway (as at 47 in Fig. 1) is disposed concentrically inside the first passageway 125 and is in fluid communication with wellhead pressure during normal operations. The first and second passageways are in fluid communication with one another (as seen in the figure) and have sealing means 127 disposed there between to permit the maintenance of a pressure differential between them. Means 135 is provided for maintaining the fluid pressure in the first passageway

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in excess of wellhead pressure to prevent the leakage of well fluids through the stuffing box (see column 12, lines 14-21 and column 6, lines 11-16).

Regarding claim 35, as understood to depend from claim 34, the stuffing box includes a means 159 and 160 to normally bias the seal means 127 in opposition to wellhead pressure in the second passageway (see column 12, lines 11-25).

Regarding claim 36, as understood to depend from claim 35, the seal means 127 are disposed in the first passageway between the means to bias 159/160 and a seal retaining member 122.

Regarding claim 41, Dietle et al disclose in Fig. 2 a drive head 103 for use with a progressing cavity pump in an oil well (see column 2, lines 40-42) that comprises a drive head housing 101, a drive shaft 107 rotatably mounted in the housing for connection to a drive motor, an annular tubular sleeve 119 rotatably mounted in the housing 101 and drivingly connected to the drive shaft by 139, and a tubular standpipe 119 concentrically mounted within the sleeve in annularly spaced relation thereto defining a first tubular fluid passageway 125 for receiving fluid at a first pressure and operable to receive a polished rod therein in annularly spaced relation defining a second tubular passageway exposed to oil well pressure during normal operation. A seal means 127 is disposed in the first fluid passageway 125. Means 135 are provided for maintaining the fluid pressure in the first passageway in excess of wellhead pressure in the second passageway. Means 139 are provided for releasably drivingly coupling the sleeve to a polished rod mounted therein.

11. Claims 43-45 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 4,071,085 to Grable et al.

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Regarding claim 43 as best understood, Grable et al disclose in Fig. 1 a drive head 11 for rotating a rod 22a in a well 17. The drive head 11 has an upper end and a lower end 19. A stuffing box 21 is integrated into the upper end of the drive head 11 which enables the stuffing box to be serviced without removing the drive head 11 from the well 17 (see column 7, lines 13-30).

Regarding claim 44, the drive head further includes a fluid pump 89 or 105 for pressurizing the stuffing box 21 (see column 4, lines 22-52).

Regarding claim 45, the drive head 11 further includes means 89 for maintaining the uphole side of the stuffing box 21 at an inherently higher pressure than the downhole side to prevent leakage of fluid from the well 17 (see column 4, lines 22-30).

12. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by US patent 6,113,355 to Hult et al. The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Hult et al disclose in Fig. 3 a drive head assembly 100 for use to fluid sealingly rotate a rod 118 extending down a well that comprises a rotatable sleeve 120 adapted to concentrically receive a portion of the rod 118, a means for drivingly connecting the sleeve 120 to the rod 118, and a prime mover drivingly connected to the sleeve 120 for rotation thereof (see column 3, lines 47-67 and column 4, lines 1-11).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dietle et al in view of US patent 6,109,348 to Caraway.

Dietle et al teach a drive head assembly as applied to claim 4 above. It is not taught that the means for maintaining the fluid pressure in the first passageway comprises a fluid pump and a fluid conduit for the delivery of pressurized fluid from the pump to the first passageway.

Caraway teaches the use of a fluid pump 60 for maintaining the fluid pressure within a passageway 29 and a fluid conduit 3 for the delivery of pressurized fluid from the pump 60 to the passageway 29 (see Fig. 1 and column 6, lines 1-9). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to maintain the fluid pressure within the first passageway taught by Dietle et al with the fluid pump and conduit taught by Caraway. One would have been motivated to make this combination so that a desired pressure could be maintained in the passageway as taught by Caraway.

15. Claims 2 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dietle et al in view of US patent 4,993,276 to Edwards.

Regarding claim 2, Dietle et al teach that the tubular standpipe and the rotatable sleeve are combined into one element that performs both functions, however there is no distinct recitation of a standpipe.

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Edwards teaches a tubular standpipe 46 concentrically mounted within sleeve 36 (see Fig. 1). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to mount the standpipe taught by Edwards in the sleeve taught by Dietle et al to define a first annular fluid passageway between the standpipe and the sleeve, and a second annular fluid passageway between the standpipe and the rod. One would have been motivated to make this combination so that oil could be received and contained between the standpipe and the rod (see column 2, lines 54-61 of '276).

Regarding claim 29, Dietle et al teach a drive head assembly as applied to claim 1 above. It is not taught that the prime mover is drivingly connected to the rotatable sleeve by gears.

Edwards teaches a prime mover that is drivingly connected to a rotatable sleeve 36 by gears 42 and 54 (see Fig. 1 and column 2, lines 37-53). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the gears taught by Edwards with the drive head assembly taught by Dietle et al. One would have been motivated to make this combination so that the drive assembly is provided with a brake to retard high speed reverse rotation when the pump seizes (see column 1, lines 45-49 of '276).

Regarding claim 30, the combination teaches that the gears comprise a drive gear 54 mounted for rotation on a drive shaft 24 extending from the prime mover, and a driven gear 42 fixedly connected to the sleeve 36 for transferring rotational torque from the drive gear to the sleeve (see Fig. 1 and column 2, lines 25-36).

Regarding claim 31, the combination, as best understood, teaches a housing 22 adapted to support the prime mover and first 38 and second 40 bearing hubs thereon, and to enclose the drive shaft and the drive and driven gears (see Fig. 1).

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16. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dietle et al in view of US patent 5,358,036 to Mills.

Dietle et al teach a drive head assembly as applied to claim 4 above. It is not taught that the means for maintaining fluid pressure includes an adjustable valve means for controlling the pressure of fluid in the first passageway.

Mills teaches an adjustable valve 95 for controlling the pressure of a fluid in a passageway (see column 7, lines 1-33). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the adjustable valve taught by Mills with the means for maintaining fluid pressure in the first passageway taught by Dietle et al. One would have been motivated to make this combination to ensure that the bearings of the drive assembly remain lubricated as taught by Mills.

17. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dietle et al in view of US patent 6,079,489 to Hult et al.

Dietle et al teach a drive head as applied to claim 41 above. It is not taught that the drive head further includes a centrifugal backspin retarder.

Hult et al teach a centrifugal backspin retarder coupled to a drive shaft for reducing reverse rotation of the sleeve (see column 1, lines 47-58). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the backspin retarder taught by Hult et al with the drive head taught by Dietle et al. One would have been motivated to make this combination so that braking of the shaft occurs when the shaft rotates in the reverse direction as taught by Hult et al.

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Allowable Subject Matter

Claims 8-19, 21-26 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fahy et al, Hult et al ('931), Mills ('115), Mills ('510), Shimodaira, and Wade teach drive heads with backspin retarders.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shane Bomar whose telephone number is 703-305-4849. The examiner can normally be reached on Monday – Thursday from 7:00 am to 4:30 pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell, can be reached on 703-308-2151. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-4198.

tsb
December 4, 2002


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